

### **REMARKS**

Claims 1– 27 are cancelled, with claims 19 -27 cancelled in this Amendment. New claims 28-38 are submitted. Support for the addition of “pH 4” to the claims can be found at least at Example 3, page 6 and at Page 6, line 13. Claims 20 - 26 have been amended to correct antecedent basis. No new matter has been added.

### **Rejections Under 35 U.S.C. § 103**

Claims 19 – 27 are rejected under 35 U.S.C. 103(a) as being obvious over Shimizu et al, (JP 01-181751) in view of Staub (US 4,304,768). Applicants respectfully traverse the rejection for at least the following reasons.

The Office Action states that Shimizu et al. discloses a honey composition and process comprising mixing honey with 10% to 40% oligosaccharides then sterilizing the honey composition at 120°C to 140°C. The Office Action further asserts that Applicants do not attach criticality to the source or state of the honey. Amended claim 19 of the present application recites in part a honey composition wherein the honey consists of natural honey. Amended independent claim 27 recites, in part, a honey composition consisting essentially of natural honey. Applicants argue that Shimizu et al. disclose a honey mixture that requires at least 50% refined honey (e.g. honey that has been deodorized and bleached based on the total weight of honey in the mixture (page 6 first full paragraph, lines 6 – 12). Shimizu et al. further disclose and teach that

“if the amount of pure honey exceeds 50%, the pH value of the honey is lowered, and not only the effects of the oligosaccharides are suppressed, but also by heating the quality of the honey may change and the oligosaccharides may decompose.” (Id.)

Amended claim 19 of the present application recites in part a honey composition with about 35 to 50 weight percent of an extender selected from the group consisting of a C2-6 polyol, raffinose, stachyose, non-metabolizable dietary fiber, and mixtures thereof. Shimizu et al. generally recite oligosaccharides (see page 2, section 2, paragraph 1; page 3, second full paragraph; page 4, second full paragraph; page 5 second full paragraph and page 7, second full paragraph), fructo-saccharides (page 5, example 1 and page 6, example 2) and malto- and iso-

malto saccharides (page 6, first full paragraph). However, Shimizu et al. do not recite the extenders of the present application (i.e. a C2-6 polyol, raffinose, stachyose, non-metabolizable dietary fiber, and mixtures thereof) and do not disclose or teach the unexpected results that arise from their use. In fact, Shimizu requires the presence of at least 50% of refined honey, based on the total weight of honey in the composition, to avoid the untoward effects of high sterilization temperatures such as decomposition of oligosaccharides (page 6, last line of the first full paragraph) and the honey turning brown and having a burning odor, which reduces its food value (page 4, first paragraph, line 3). Shimizu et al. state at page 5, second full paragraph, that

“[a]lso by increasing the pH value of the honey, the thermal stability of the honey improves. Therefore, sterilization at high temperatures does not cause thermal decomposition and the honey quality does not change. Similarly, because of the increased pH value, the thermal stability of the oligosaccharides is also increased (when the pH value is about 5, it is stable up to 140°C), and oligosaccharides do not decompose.”

In contrast, Applicants have discovered that natural honey, that is honey that has not been refined by deodorizing and/or bleaching, can be exclusively blended with extenders recited above, and boiled without detriment to color, viscosity, texture or flavor, while maintaining the natural pH of honey of about 4 (see Examples of the present disclosure and also page 4, third paragraph on Shimizu et al.).

The disclosure of Staub does not remedy the deficiencies of Shimizu et al. regarding the honey composition, in that Staub does not disclose honey. Therefore, Shimizu et al. and Staub references alone, or in combination, neither teach nor suggest the presently claimed invention.

The Examiner's rejection is premised on a substitution of the extender groups for the polyfructose of Shimizu. However, the references relied upon by the Examiner neither teach nor suggest such a substitution. Neither does the combination of references teach or suggest the production of the honey composition that would be useful as a dietetic or diabetic food stuff.

The claimed invention is a composition comprising *natural honey* in combination with one or more extender molecules. As discussed in the prior Office Actions the primary reference of Shimizu discloses a honey product that differs greatly from the product of the claimed

invention. The cited reference discloses a honey containing polyfructose for the purposes of sterilization or for inducing gut microbes. Polyfructose is normally present in natural honey, and as noted by the primary reference, is an easily digested polysaccharide. See, for example, page 2 of the translation of the Japanese patent application under number 3 “Detailed Explanation of the Invention” which reads as follows:

This invention is concerned with a method of manufacturing and sterilizing oligosaccharide-containing honey, which is obtained by adding [fructooligosaccharides to honey, which is **easily digested** and absorbed.  
*emphasis added*]

The primary reference does not disclose or suggest extending honey with a compound radically different from those compounds present in natural honey, as claimed.

In sharp contrast to the cited reference, the honey composition of the claimed invention includes extender molecules which are not normally present in honey compositions, and which are not easily digested in the human digestive system. As discussed fully in the specification, a requirement of the claimed extender molecules is that they not be metabolized or be only slowly metabolized in the human digestive system. The instant claims recite specific extender molecules selected from C2-6 polyol, raffinose, stachyose, and non-metabolizable dietary fiber as claimed extender molecules. Each specific extender is recited in dependent claims. These compounds clearly are not metabolized or are only slowly metabolized in the human digestive system. These compounds differ radically in structure and function (as well as in flavor and texture) as compared to polyfructose. As such, it cannot be predicted from Shimizu that a honey composition extended as claimed would provide a satisfactory honey product suitable for use as a dietetic or diabetic honey product.

In contrast to the polyfructose of Shimizu (page 3 of the translation), the extender molecules of the claimed invention are not naturally found in a honey composition, and their impact on the viscosity, texture, taste, odor, and other desirable properties of a food product such as honey was previously unknown. As discussed in the specification, previous attempts to extend honey compositions with standard bulking agents produced undesirable honey products. Thus one of skill in the art could not have predicted the claimed compounds would have the natural honey composition desired and claimed.

In addition, Shimizu itself does not disclose or suggest a honey product having organoleptic properties similar to natural honey. As discussed above, Shimizu requires the presence of at least 50% “refined” honey. The refined honey is bleached and deodorized, and does not retain organoleptic properties of natural honey. The refined honey is required to avoid the ill effects of high civilization temperatures such as decomposition of oligosaccharides, brown color and burning odor, reducing its food value (See page 4, first paragraph; also, page 6, last line of first full paragraph). Shimizu also states at page 5 the following:

[A]lso by increasing the Ph value of the honey, the thermal stability of the honey improves. Therefore, sterilization at high temperatures does not cause thermal decomposition and the honey quality does not change. Similarly, because of the increased Ph value, the thermal stability of the oligosaccharides is also increased (when the Ph value is about 5, it is stable up to 140° C) and oligosaccharides do not decompose.

In contrast, Applicants have discovered that natural honey, honey that has not been refined by deodorizing and/or bleaching, can be exclusively blended with extenders recited above, and heated without detriment to color, viscosity, texture, or flavor while maintaining the natural Ph of honey at about 4 (See examples in the specification teaching maintenance of the Ph to 4 and also page 4, third paragraph of Shimizu *et al.* teaching the need to increase the Ph).

A secondary reference Staub, does not remedy the deficiencies of Shimizu regarding the honey composition. Staub does not disclose a honey composition. In contrast, Staub teaches away from the claimed invention by teaching that polysaccharides and polyol induce diarrhea because they are not metabolized. The reference teaches that specific fiber materials may be used to control polysaccharide/polyol induced diarrhea. The reference further teaches that such fiber materials render such food stuffs undesirable with some exceptions (See column 3, lines 27-37).

In summary, the primary reference of Shimizu fails to disclose the extenders of the claimed invention, and fails to teach the claimed honey composition comprising honey that consists of natural honey, the claimed extender molecules, and having a Ph of about 4. The secondary references cure the deficiencies of the primary reference but rather teach away from the claimed invention. As such, Applicant submits the claimed invention, including surprising

results as stated in the Declaration of the inventor, are not made obvious by the prior art citations, alone or in combination.

Because claims 20 – 26 depend from claim 19, Applicants submit that claims 20 – 26 are also in condition for allowance.

In view of the foregoing, withdrawal and reconsideration of the Examiner's rejection under 35 U.S.C. 35 103(a) is requested. Applicants do not otherwise concede the correctness of the rejections and reserve the right to make additional arguments as may be necessary.

### Conclusion

In view of the above amendments and remarks, Applicants respectfully request a Notice of Allowance. If the Examiner believes that a telephone conference would advance the prosecution of the application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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Date: October 28, 2008

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